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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,024	04/08/2004	Masaaki Oyamada	0092/012001	7572

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SMITH PATENT OFFICE
1901 PENNSYLVANIA AVENUE N W
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EXAMINER

ABRAMOWITZ, HOWARD E

ART UNIT PAPER NUMBER

1762

DATE MAILED: 05/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,024

Applicant(s)

OYAMADA ET AL.

Examiner

Howard E. Abramowitz

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 1 and 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-10 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/8/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 1 and 2 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3/30/06.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3, 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. (US Patent No. 6,274,241).

Referring to claim 3, Weber et al. discloses a method for forming a conductive electroless plating powder comprising, allowing core particles with a noble metal (palladium) ion catching ability to capture noble metal ions, and reducing the noble metal ions so that the surface of the core (glass) support the noble metal (columns 3-4 lines 49-54). Dispersing the core particles in an initial thin film forming solution containing nickel ions a reducing agent a complexing agent comprising an amine (thiourea) and reducing the nickel ions to form a thin nickel film on a surface of each of the core particles (column 7 lines 30-35). It does not teach applying a second solution individually and simultaneously to the first solution. However, it does teach that the powder is "exposed" to the aqueous coating solution (column 4 line 41). This could mean that the powder solution is added to the aqueous plating solution or that the aqueous plating solution is added to the powder solution. In the latter case, when the solution is being added it initially acts as step II of the process as the particles would instantaneously begin forming the metal coating and as the plating solution was further added to the powder solution it would read on step III of the method as a Ni ion containing solution with the same complexing agent and a reducing agent would simultaneously be added to the aqueous suspension containing the core particles provided with the initial thin nickel film. It would have been obvious to one of ordinary skill that adding the plating solution to the powder solution would have the same result as adding the powder solution to the plating solution. Accordingly, one of ordinary skill

Art Unit: 1762

would have found either method operable and both would have a reasonable expectation of successfully forming the film.

Referring to claims 7-9, Weber et al. only discloses that the particles are glass particles it does not disclose the type of glass, and even assuming the glass is silicon oxide as could be taken from column 6. The density of the particles varies and as the amount of particles given in weber is in weight (see example 2) the conversion to surface area per unit volume is not possible from the given data without knowing the density of the glass. Accordingly, one could estimate the density to be 2 g/cm^3 and the average particle diameter as 130 microns the average of the range of the particle sizes (column 7 lines 1-5) accordingly 10 grams of particles with those parameters gives a surface area per liter of solution of approximately $0.4 \text{ m}^2/\text{l}$.

Referring to claim 10, the core particle is given a noble metal ion capturing ability by a surface treatment (column 6).

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. in view of Henry et al. (Us Patent No. 6,156,390).

Referring to claims 5 and 6 Weber et al. discloses all of the features of the claim as discussed above except it does not disclose using ethylenediamene as the complexing agent. However, Henry et al. teaches that the complexing agent can be any of a broad range of complexing agents including ethylenediamene (column 5 lines 16-31). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Weber et al. to use ethylenediamene as the

Art Unit: 1762

complexing agent as Henry et al. teaches that it is a suitable complexing agent for electroless nickel deposition and would have a reasonable expectation of successfully forming the Ni layer.

Referring to claim 4, Henry et al. teaches that when using complexing agents that the desired concentration is 50-0 g/l (column 5 lines 16-31).

Double Patenting

Claims 3-10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3-15 of copending Application No. 10/820,025 in view of Henry et al (US Patent No. 6,156,390). Claim 3 of the instant application and claim 3 of the '025 application are similar except for the type of complexing agent used, Henry et al. teaches that either a carboxylic acid or an amine group containing complexing agent would both be operable for forming an electroless Ni layer. Accordingly it would have been obvious to one of ordinary skill that these complexing agents are interchangeable and it would have been obvious to use one or the other. The dependent claims are rejected over the dependent claims of the '025 application

This is a provisional obviousness-type double patenting rejection.

Claim 3 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 5 of U.S. Patent No. 6,770,369 in view of Weber et al.. Claim 5 of US Patent No. 6,770,369 teaches all of the features of claim 3

Art Unit: 1762

of the instant application except it does not teach the type of complexing agent used. However, Weber et al. teaches to use thiourea as discussed above. Accordingly it would have been obvious to one of ordinary skill in the art to use thiourea as the complexing agent as it is taught in Weber et al. as discussed above.

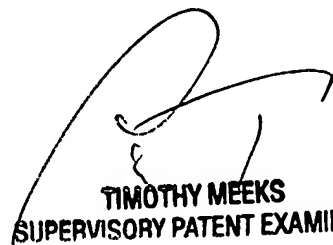
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Howard E. Abramowitz whose telephone number is 571-272-8557. The examiner can normally be reached on monday-friday 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


HEA


TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER